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## **Encouraging developing country involvement in a post-2012 climate change regime: carrots, sticks or both?**

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### **1. Introduction**

The climate-trade nexus has become the focus of academic debate (e.g., Zhang, 1998, 2004; Zhang and Assunção, 2004), and has gained increasing attention as governments are taking great efforts to forge a post-2012 climate change regime to succeed the Kyoto Protocol. With concerns about their own competitiveness and growing greenhouse gas emissions in developing countries, some industrialized countries, if not all, are considering whether to impose unilateral trade measures against developing country trading partners. While it is clear that greenhouse gas emissions targets of developed countries need to be tightened further in a post-2012 climate change regime, developing country involvement is also crucial for climate change mitigation and adaptation, given that climate change is a global problem requiring a global response. This raises the issue of which approach would be most likely to stimulate developing countries to take appropriate actions in the post-2012 climate regime. Would positive or negative incentives work best, in other words, do we need carrots, sticks or both?

This paper seeks to answer this question. By revisiting the six options for China that I envisioned a decade ago (Zhang, 2000) and examining a variety of factors, the paper first discusses how far developing country commitments can go in an immediate post-2012 climate regime. It argues that developing country commitments are most unlikely to go beyond defined policies and measures in this timeframe. The type of border adjustment provisions currently being discussed by most developed countries include more sticks than carrots for developing countries. Sticks can be incorporated, but only if they are credible and realistic and serve as a useful supplement to push developing countries to take actions or adopt policies and measures earlier than would otherwise have been the case. In order to encourage developing countries to do more to combat climate change, the paper suggests that developed countries should rather focus on carrots.

## 2. Developing country commitments in an immediate post-2012 climate regime<sup>1</sup>

A decade ago, the fact that the U.S. took on emission reduction commitments at Kyoto, coupled with diplomatic and public pressure, put great expectations for China to take on some kind of commitment. Under these circumstances and in anticipation that the U.S. will take on more stringent commitments in the post-2012 period, I envisioned the following six proposals that could be put on the table as China's plausible negotiation position, which are described in ascending order of stringency (Zhang, 2000).<sup>2</sup>

“First, China could regard its active participation in the clean development mechanism as ‘meaningful participation’.

Second, just as Article 3.2 of the Kyoto Protocol requires Annex I countries to ‘have made demonstrable progress’ in achieving their commitments by 2005, China could commit to demonstrable efforts towards slowing its greenhouse gas emissions growth at some point between the first commitment period and 2020.

Third, if the above commitment is not considered ‘meaningful’, China could make voluntary commitments to specific policies and measures to limit greenhouse gas emissions at some point between the first commitment period and 2020. Policies and measures might need to be developed to explicitly demonstrate whether or not China has made adequate efforts.

Fourth, China could make a voluntary commitment to total energy consumption or total greenhouse gas emissions per unit of GDP at some point around or beyond 2020. In my view, carbon intensity of the economy is preferred to energy intensity of the economy because all the efforts towards shifting away from high-carbon energy are awarded by the former.

The fifth option would be for China to voluntarily commit to an emissions cap on a particular sector at some point around or beyond 2020. Taking on such a commitment, although already burdensome for China, could raise the concern about the carbon leakage from the sector to those sectors whose emissions are not capped.

This leads to the final option that China could offer: a combination of a targeted carbon intensity level with an emissions cap on a particular sector at some point around or beyond 2020. This is the bottom line: China can not afford to go beyond it until its per capita income catches up with the level of middle-developed countries.”

At that time, it looked like China would be pressured to take on commitments at a much earlier date than what China wished. This situation changed once the U.S. withdrew from the Kyoto Protocol. A decade later, we see that the ideas of commitments based on carbon intensity and sectoral approaches are formally incorporated into the Bali Road Map. This Road Map aims to reach an agreement on the successor to the Kyoto Protocol, with a clear deadline for conclusion

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<sup>1</sup> See Zhang (2008 and 2009) for detailed discussion.

<sup>2</sup> Zhang (2000) was originally prepared for the United Nations Development Programme in 1998. When the draft of that paper was ready, the Washington DC-based Resources for the Future made a press release titled “Is China Taking Actions to Limit Its Greenhouse Gas Emissions?”, 15 September 1998.

by 2009. This is a very positive development, and clearly indicates the policy relevance of the ideas that once sounded theoretical. However, I seriously doubt that developing countries will go beyond the aforementioned third option (i.e. commitment to defined policies and measures) between 2013 and 2020 for several reasons.

First, given the very short timeframe to conclude the negotiations, it would be impossible, in all likelihood, to agree on the levels of ambitions for developing countries, on the countries and sectors covered, and on the specific rules, especially due to the amount of the data that would be required.

Second, it is inconceivable that developing countries would ever go beyond the aforementioned third option between 2013 and 2020 without an effective financial mechanism. The pledged funding under the UNFCCC and its Kyoto Protocol represents only a small percentage of the anticipated mitigation and adaptation needs of developing countries (Zhang, 2008 and 2009). Unless this funding situation changes significantly, which is not likely to happen, developing countries cannot afford to make commitments beyond defined policies and measures.

Third, the U.S. factor will continue to play a role in affecting developing countries' willingness to take on commitments and the stringency of these commitments. While it was not adopted by the U.S. Senate in 2008, the Boxer Substitute of the Lieberman-Warner Climate Security Act (2008) provides a good idea of what future U.S. climate legislation might look like. Even if the Climate Security Act became law, U.S. emissions in 2020 would at best be kept at their 1990 level. This is far from the drastic cuts in emissions developing countries would expect before taking on their own commitments.

### **3. Encouraging developing countries to take climate actions: carrots, sticks or both?**

Understandably, the U.S. and other industrialized countries would like to see developing countries, in particular large developing economies, go beyond commitment on policies and measures because of concerns about their own competitiveness and growing greenhouse gas emissions in developing countries. They are considering unilateral trade measures to induce developing countries to do so. Indeed, a variety of measures have been put forward for the U.S. legislators to consider, falling into the three broad categories: border adjustment measures, performance standards and carbon market design (Subcommittee on Energy and Air Quality of the U.S. House of Representatives, 2008). To date, there is considerable disagreement as to what measures would be most likely to pass muster under the WTO. For a number of reasons, including WTO consistency, but also political reality and effectiveness in terms of actual emissions reductions, industrialized countries need to focus on carrots, supported by sticks (e.g., border adjustment measures and similar trade-related measures or conditions on access to carbon markets), as a means of encouraging developing countries to do more to combat climate change. The Montreal Protocol on Substances that Deplete the Ozone Layer clearly demonstrates that an approach of carrots (financial assistance and technology transfer) assisted with sticks (trade restrictions) works effectively in achieving its legitimate environmental objective (Zhang, 2008).

### 3.1 WTO scrutiny of the Lieberman-Warner bill

However, measures as proposed in the Climate Security Act hold out more sticks than carrots to developing countries. A proposal by the International Brotherhood of Electrical Workers (IBEW) and American Electric Power (AEP) would have required importers to obtain emission allowances to cover the carbon content of certain products from countries that do not take climate actions comparable to that of the U.S. (Morris and Hill, 2007). The original version of the bill incorporated this mechanism, threatening to punish energy-intensive imports from developing countries by requiring importers to obtain emission allowances, but only if they had not taken comparable action by 2020, eight years after the effective start date (2012 as proposed) of a U.S. cap-and-trade regime begins. It was argued that the inclusion of trade provisions would give the U.S. additional diplomatic leverage to negotiate multilaterally and bilaterally with other countries on comparable climate actions. Should such negotiations not succeed, trade provisions would provide a means of levelling the carbon playing field between American energy-intensive manufacturers and their competitors in countries not taking comparable climate actions. Not only would the proposed amendment have imposed an import allowance purchase requirement too quickly, it would also have dramatically expanded the scope of punishment: almost any manufactured product would potentially have qualified. If strictly implemented, such a provision would pose an insurmountable hurdle for developing countries (The Economist, 2008).

It should be emphasized that the aim of including trade provisions is to facilitate negotiations while keeping open the possibility of invoking trade measures as a last resort. The latest version of the Climate Security Act brought the deadline down to 2014 to gain business and union backing.<sup>3</sup> The inclusion of trade provisions might be considered the ‘price’ of passage for any U.S. legislation capping its greenhouse gas emissions. Put another way, it is likely that no climate legislation can move through U.S. Congress without dealing with the issue of trade provisions. While how long a grace period should be granted to developing countries needs to take many factors into consideration (Haverkamp, 2008) and is an issue of debate, significantly bringing forward the imposition of allowance requirements to U.S. imports is rather unrealistic, given the already very short grace period ending 2019 in its original version. It should be noted that the Montreal Protocol grants developing countries a grace period of 10 years (Zhang, 2000). Given that the scope of economic activities affected by a climate regime is several orders of magnitude larger than those covered by the Montreal Protocol, if legislation incorporates border adjustment measures (put the issue of their WTO consistency aside), in my view, they should not be invoked at least 10 years after mandatory U.S. emission targets take effect.

Moreover, unrealistically shortening the grace period granted of two years before resorting to the trade provisions would increase uncertainty to withstand a challenge before the WTO. As the ruling in the Shrimp-Turtle dispute indicates, for a trade measure to be considered WTO consistent, a period of good faith efforts to reach agreements among the countries concerned is needed before imposing the measure. Put another way, trade provisions should be preceded by major efforts to negotiate with partners within a reasonable timeframe (Zhang, 2004; Zhang and Assunção, 2004). Furthermore, developing countries need reasonable time to develop and operate national climate policies and measures. Take the establishment of an emissions trading scheme as a case. Even for the U.S. SO<sub>2</sub> Allowance Trading Program, the entire process from the U.S. Environmental Protection Agency beginning to compile the data for its allocation database in

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<sup>3</sup> This is in line with the IBEW/AEP proposal, which requires U.S. importers to submit allowances to cover the emissions produced during the manufacturing of those goods two years after U.S. starts its trade-and-cap program (McBroom, 2008).

1989 to publishing its final allowance allocations in March 2003 took almost four years. For the first phase of the EU Emissions Trading Scheme, the entire process took almost two years from the EU publishing the Directive establishing a scheme for greenhouse gas emission allowance trading on 23 July 2003 to it approving the last national allocation plan for Greece on 20 June 2005. For developing countries with very weak environmental institutions and that do not have dependable data on emissions, fuel uses and outputs for installations, this allocation process is expected to take much longer than what experienced in the U.S. and the EU (Zhang, 2007).

In the case of a WTO dispute, the question will arise whether there were any alternatives to trade provisions that could fulfil the same function. In the Thai cigarette dispute, the Dispute Settlement Panel concluded that Thailand had legitimate concerns with health, but it had measures available to it other than a trade ban that would be consistent with the General Agreement on Tariffs and Trade (GATT) (e.g. bans on advertising) (GATT, 1990). Indeed, there are alternatives to resorting to trade provisions to protect the U.S. trade-sensitive, energy-intensive industries during a period of good faith efforts to negotiate with trading partners on comparable actions. One way to address competitiveness concerns is to initially allocate free emission allowances to those sectors vulnerable to global competition, either totally or partially. Bovenberg and Goulder (2002) found that initially giving out about 13% of the allowances to fossil fuel suppliers freely instead of auctioning in an emissions trading scheme in the U.S. would be sufficient to prevent their profits with the emissions constraints from falling in comparison with those without the emissions constraints.

To pass WTO scrutiny of trade provisions, the U.S. is likely to make reference to the health and environmental exceptions provided under GATT Article XX. This Article authorizes governments to employ otherwise GATT-illegal measures when such measures are necessary to deal with certain enumerated public policy problems. The GATT panel in Tuna/Dolphin II concluded that Article XX does not preclude governments from pursuing environmental concerns outside their national territory, but such extra-jurisdictional application of domestic laws would be permitted only if aimed *primarily* at having a conservation or protection effect (Zhang, 1998). The capacity of the planet's atmosphere to absorb greenhouse gas emissions without adverse impacts is an 'exhaustible natural resource'. Thus, if countries take measures on their own and have extra-jurisdictional application *primarily* to prevent the depletion of this 'exhaustible natural resource', such measures will have a good justification under the GATT Article XX. Along this reasoning, if the main objective of trade provisions in the Climate Security Act is to protect the environment by requiring other countries to take action comparable to that of the U.S., then mandating importers to purchase allowances from the designated special international reserve allowance pool is debatable under the GATT Article XX. To increase the prospects for a successful WTO defence, trade provisions can refer to the designated special international reserve allowance pool, but may not do without adding "or equivalent". This will allow importers to submit equivalent emission reduction units that are not necessarily allowances but are recognized by international treaties to cover the carbon contents of imported products.

### **3.2 Methodological challenge in implementing trade provisions**

Besides the issue of WTO consistency, there will be methodological challenges in implementing trade provisions. Identifying the appropriate carbon contents embodied in traded products will present formidable technical difficulties, given the wide range of technologies in use around the world and very different energy resource endowments and consumption patterns among countries. In the absence of any information regarding the carbon content of the products from exporting

countries, importing countries, the U.S. in this case, could, for instance, prescribe the tax rates based on their domestically predominant method of production for the imported products (Zhang, 1998; Zhang and Assunção, 2004). This practice is by no means without foundation. For example, the U.S. Secretary of the Treasury has adopted the approach in the tax on imported toxic chemicals under the Superfund Tax (Poterba and Rotemberg, 1995; Hoerner, 1998). To be more defensible, it should allow foreign producers to challenge the carbon contents applied to their products to ensure that they will not pay for more than they could have actually emitted.

## **4. Concluding remarks**

Governments are taking great efforts to forge an agreement on comparable climate actions in the post-2012 climate negotiations. Aimed at levelling the carbon playing field, the inclusion of trade-related provisions is considered useful by some in both facilitating the adoption of such an agreement and effectively implementing it.

With concerns about their own competitiveness and growing greenhouse gas emissions in developing countries, some industrialized countries, if not all, are considering the term ‘comparable’ as the standard by which to assess the efforts made by their trading partners in order to decide on whether to impose unilateral trade measures on them. This clearly indicates a need to define comparable efforts towards climate mitigation and adaptation to discipline the use of unilateral trade measures at the international level, taking into account differences in national circumstances, such as current level of development, per capita GDP, current and historical emissions, emission intensity, and per capita emissions.

While the Climate Security Act died on the floor of the U.S. Senate, this is by no means the end of the prospect for unilateral trade measures like the border adjustment measure stipulated in the U.S. bill, given that the inclusion of such trade provisions might be considered the ‘price’ for passing any U.S. legislation capping its greenhouse gas emissions. In addition to methodological challenges in implementing the Boxer-Lieberman-Warner type of border adjustment provision, this paper has argued that that type of border adjustment provision is likely to face a WTO-consistency challenge. To increase the prospects for a successful WTO defence, there should be a period of good faith efforts to reach agreements among the countries concerned before imposing such trade measures. Furthermore, WTO consistency also requires considering alternatives to trade provisions for the same function. Moreover, the paper has suggested that trade provisions can refer to the designated special international reserve allowance pool, but should allow importers to submit equivalent emission reduction units that are recognized by international treaties to cover the carbon contents of imported products.

It should be emphasized that the U.S. Climate Security Act contained more sticks than carrots to developing countries. If the U.S. and other industrialized countries really want to persuade developing countries to do more to combat climate change, they should first reflect why developing countries are unwilling to and cannot afford to go beyond commitments on policies and measures. That will require industrialized countries to seriously consider developing country’s legitimate demand that industrialized countries need to demonstrate that they have taken the lead in reducing their own greenhouse gas emissions, provide significant funding to support developing country’s climate change mitigation and adaptation efforts and to transfer low or zero carbon emission technologies at an affordable price to developing countries. Industrialized countries need to provide positive incentives to encourage developing countries to

do more. Carrots should serve as the main means. Sticks can be incorporated, but only if they are credible and realistic and serve as a useful supplement to push developing countries to take actions or adopt policies and measures earlier than would otherwise have been the case. At a time when the world community is starting to negotiate a post-2012 climate regime, unrealistic border adjustment measures are counterproductive to help to reach such an agreement on comparable climate actions in the post-2012 climate negotiations.

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